

REMARKS/ARGUMENTS

Reconsideration and allowance of this application are respectfully requested.

Currently, claims 1-8 are pending in this application.

Rejection Under 35 U.S.C. §102:

Claims 1-8 were rejected under 35 U.S.C. §102 as allegedly being anticipated by Hirota et al (U.S. '178, hereinafter "Hirota"). Applicant respectfully traverses this rejection.

For a reference to anticipate a claim, each element must be found, either expressly or under principles of inherency, in the reference. Each element of the claimed invention is not found in Hirota. For example, Hirota fails to disclose "hydrocarbon supply quantity controlling means for determining an upper limit value of the permissible quantity of the hydrocarbon supplied to the exhaust gas after-treatment device in accordance with the temperature of the exhaust gas after-treatment device estimated by the temperature sensing means, and for controlling the hydrocarbon supplying means so that the quantity of the hydrocarbon supplied to the exhaust gas after-treatment device becomes equal to or less than the upper limit value," as required by independent claim 1. Moreover, Hirota fails to disclose "controlling the amount of said supplied hydrocarbon to maintain said amount at or below an upper limit valve that is related to the temperature of the catalyst and that has been determined to thereby reduce or avoid hydrocarbon poisoning of the catalyst," as required by independent claim 8.

Through these features, hydrocarbon poisoning of a catalyst may be reduced or prevented (see, e.g., page 16, lines 3-14 of the originally-filed specification), particularly

when the temperature of an exhaust gas after-treatment device is low (see Fig. 7 and page 21, lines 5-23 of the originally-filed specification).

Page 3, lines 10-11 of the Office Action apparently alleges that the above noted features of claim 1 are disclosed by "Figs. 18-36; col. 18, lines 30-67; col. 19, lines 1-51; cols. 24-27, lines 1-67." These cited portions of Hirota present a large range of text and a large number of figures. Applicant thus respectfully requests that the next Office Action specifically identify which parts of the cited portions of Hirota disclose the above-noted claim limitations if rejection in view of Hirota is maintained. The Office Action does not provide any analysis or detail with respect to the above-noted claim limitations beyond merely identifying this large range of text and figures of Hirota.

Hirota discloses a number of flowcharts for preventing the deposition of particulates on a particulate filter. For example, Figs. 26, 28, 31 and 32 present first, second, third and fourth flowcharts, respectively, for preventing the deposition of particulates on a particulate filter. In the first flowchart (Fig. 26), Hirota describes supplying a reducing agent to the particulate filter in step 106 if it is determined that the temperature (T) of the particulate filter detected by temperature sensor 77 is higher than a predetermined temperature (Ts) in step 104. (See col. 18, lines 46-48 and 62-64). In the fourth flowchart (Fig. 32), Hirota describes supplying a reducing agent to the particulate filter in step 402 if it is determined that the temperature (T) of the particulate filter is not higher than a predetermined temperature (Ts). (See col. 26, lines 8-15). While each of these flowcharts describes supplying a reducing agent such as hydrocarbon, there is nothing in Hirota which discloses determining an upper limit value of a permissible quantity of hydrocarbon supplied to an exhaust gas after-treatment device in accordance

with an estimated temperature of the exhaust gas after-treatment device. Moreover, Hirota further fails to disclose controlling the quantity of hydrocarbon (as a reducing agent) supplied to the exhaust gas after-treatment device to the upper limit or lower. While col. 19, lines 31-33 states “The reducing agent is supplied directly to the particulate filter and thus the amount of reducing agent can be made a minimum,” making the amount of reducing agent a minimum as disclosed by Hirota fails to provide a teaching of determining an upper limit value of a permissible quantity of hydrocarbon in accordance with an estimated temperature of the exhaust gas after-treatment device.

Fig. 35 of Hirota presents a fifth flowchart for causing a particulate filter to release NO_x to deoxidize the released NO_x. As part of this flowchart, a required amount of reducing agent is decided in accordance with a currently assumed amount of NO_x absorbed in the particulate filter to release all of the absorbed NO_x and to deoxidize it. While this portion of Hirota discloses deciding a required amount of reducing agent, it is done so in accordance with a currently assumed amount of NO_x. This portion of Hirota thus fails to disclose determining an upper limit value of reducing agent in accordance with an estimated temperature of an exhaust gas after-treatment device.

Accordingly, Applicant respectfully requests that the rejection of claims 1-8 under 35 U.S.C. §102 be withdrawn.

KUBOSHIMA et al.
Application No. 10/754,560
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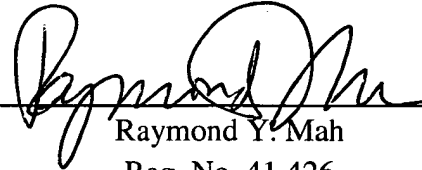
Conclusion:

Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions or believes that an interview would further prosecution of this application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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By: _____



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